

ENVIRONMENTAL CONTROL AND MAINTENANCE PLAN

SITE PREPARATION AND MATERIAL REMOVAL

**PRE-FINAL DESIGN
ENVIRO-CHEM SUPERFUND SITE
ZIONSVILLE, INDIANA**

**Prepared For:
ENVIRONMENTAL CONSERVATION AND
CHEMICAL CORPORATION TRUST**

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NOTICE

This document is a portion of the overall design package and, therefore, cannot be referenced, in whole or in part, as a standalone document for any other purpose.

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1.0 PROJECT DESCRIPTION

1.1 Site Location

The ECC Site is located in a rural area of Boone County, about 5 miles north of Zionsville and 10 miles northwest of Indianapolis, Indiana (Figures 1-1 and 1-2).

1.2 Site Description

The Site is defined as the area bounded by the proposed perimeter fence, which includes the 3.053-acre remedial boundary, the support zone, and the buffer zone between the proposed fence and the north and eastern sides of the Site. A buffer zone on the southern side of the Site contains a proposed Remedial Contractor equipment laydown area. Site conditions are shown on Contract Drawing C-1 and the Support Zone Plan is described on Contract Drawing C-3.

Directly west of the Site is an active commercial waste handling and recycling facility operated by the Boone County Resource Recovery Systems, Inc. (BCRRS). Access to the Site will be from State Route 421 and will be shared with BCRRS.

Directly east of the Site across an unnamed ditch is the inactive Northside Sanitary Landfill (NSL) landfill. This facility is also a Superfund Site and is presently undergoing remedial design activities. The south end of the Site is approximately 500 feet from an existing residence and is approximately 400 feet from Finley Creek, the main surface water drainage in the site area.

Residential properties are also located to the north and west, within 1/2 mile of the facilities. A small residential community, Northfield, is located north of the Site on State Route 421. Approximately 50 residences are located within 1 mile of the sites.

The Site is in an area that is gently sloping, predominantly to the east towards the unnamed ditch. The unnamed ditch runs north to south along the eastern edge of the Site and drains the Site either directly or from tributary ditches on the north and south ends of the Site. The unnamed ditch flows south from the Site to Finley Creek.



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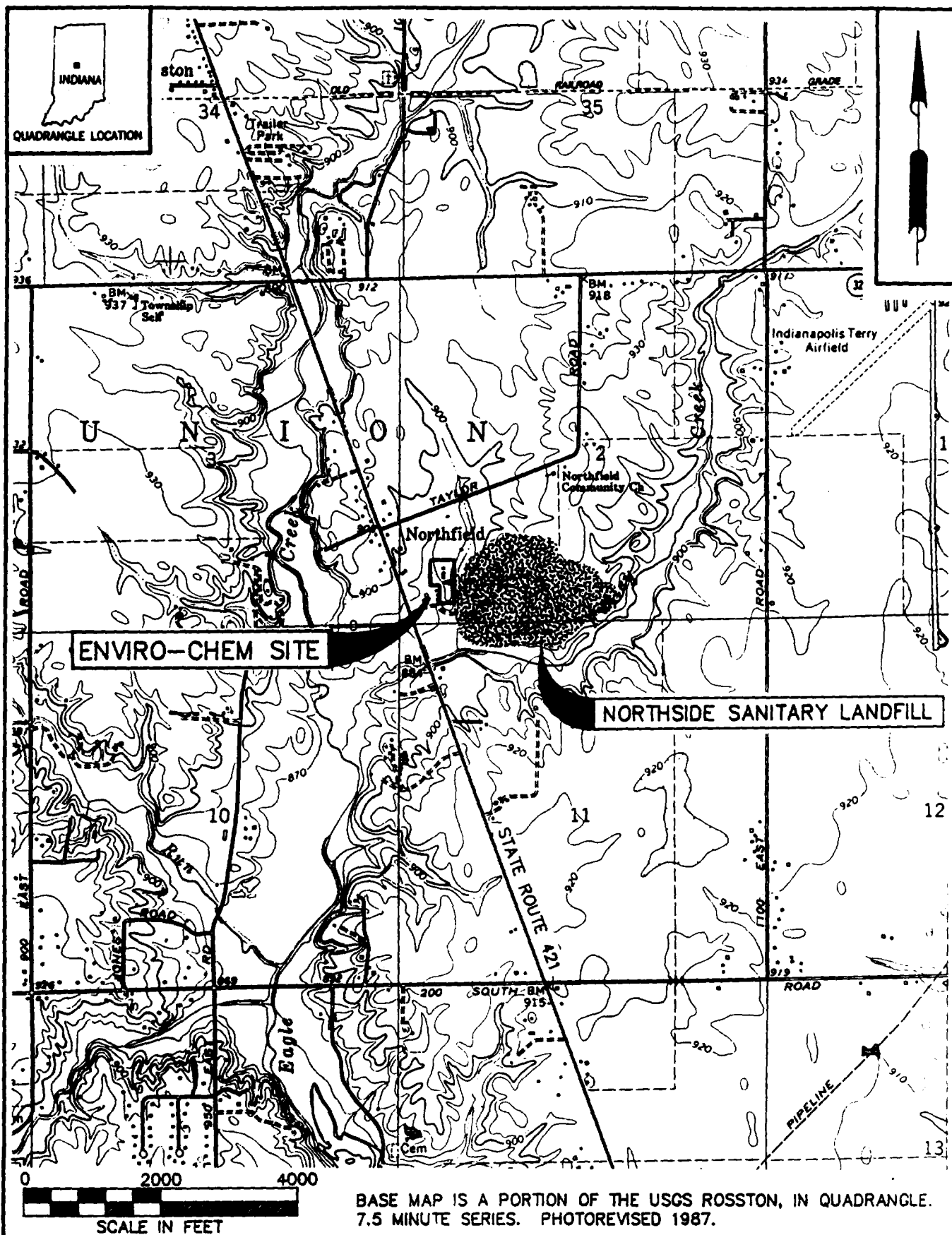
SITE LOCATION MAP
ENVIRO-CHEM SITE, ZIONSVILLE, IN

SCALE: AS SHOWN

FIGURE NUMBER

1-1

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Various solid waste materials are present at the Site both within the remedial boundary and within the support zone. Emergency actions undertaken prior to 1990 have resulted in the removal of the major sources of contamination. The structures remaining at the Site include cleaned tanks, the process building, the A-frame structure, the concrete pad with approximately 270 drums, and miscellaneous debris.

1.3 Summary of Work

The project is being performed using a phased approach. The first phase, Site Preparation and Material Removal (SPMR), consists of preparation of a site support zone, removal of 53 steel tanks, approximately 270 drums, a process building, miscellaneous debris, and offsite transportation and disposal of all removed materials.

The second phase, Remedial Action, will be initiated after the SPMR phase has been completed. This phase will consist of in-situ treatment of contaminated soils and final capping of the treatment area. Operation and maintenance of the treatment system is included in the Remedial Action phase. Verification and compliance monitoring will be performed as part of the operation of the soil treatment system.

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2.0 ENVIRONMENTAL CONTROL AND MAINTENANCE PLAN OBJECTIVES

2.1 General

This Environmental Control and Maintenance Plan (ECMP) has been prepared to provide general guidelines and procedures to the Remedial Contractor for protection of the environment and maintenance of those protective measures during implementation of the SPMR work. This plan describes the measures and procedures which will be utilized to maintain the environment in its natural state to the greatest extent possible during the project work and to enhance the natural appearance upon project completion.

This plan should be used in conjunction with the Contract Specifications Section 01395 - Environmental Control and Maintenance and Section 02700 - Erosion Control.

2.2 Regulatory Requirements

All applicable Federal, state, and local laws and regulations regarding environmental protection will be adhered to by the Remedial Contractor during the performance of this project work. Any subcontractors used onsite must also comply with the provisions of this plan.

2.3 Notification

The ECC Trust's Engineer (Engineer) will notify the Remedial Contractor in writing of any observed noncompliance with Federal, state, or local environmental laws or regulations. Notice will be deemed received when delivered to the Remedial Contractor at the Site. The Engineer will, after submittal of such notice, immediately inform the U.S. EPA and IDEM of proposed corrective action and the Remedial Contractor shall take such action as may be necessary.

Emergency response and spill control measures that might be necessary to address any noncompliance are outlined in the Health and Safety Plan.

3.0 REMEDIAL CONTRACTOR ORGANIZATION AND RESPONSIBILITIES

3.1 Organization

Remedial Contractor personnel responsible for insuring compliance with this plan include the Construction Manager and the Contractor Quality Control (CQC) Manager. The Engineer will have the primary site authority to oversee the overall operations of the Remedial Contractor.

3.2 Responsibilities

The responsibilities of the Construction Manager and the CQC Manager are as follows.

3.2.1 Construction Manager

The Construction Manager is the Remedial Contractor's appointed manager of the project. He is responsible for the general oversight of the progress of onsite activities, including the management of all onsite field personnel, and for implementing actions to ensure compliance with the Environmental Control and Maintenance Plan. The Construction Manager is responsible for coordinating and providing the necessary labor, equipment, and materials for environmental protection measures as required by the plan.

The Construction Manager will, after receiving written notice from the Engineer of any noncompliance with Federal, state, or local law or environmental ordinance, inform the Engineer of proposed corrective action and will be responsible for taking such action as may be approved.

The Construction Manager is also responsible for preparation of the Environmental Conditions Survey Report prior to start of site construction activities.

3.2.2 CQC Manager

The CQC Manager has overall responsibility for monitoring the surrounding work areas for all items associated with Environmental Control and Maintenance. Specific items to be monitored or protected include soil erosion and sedimentation control, preservation of trees and shrubs outside of work areas, water resources, fish and wildlife, debris disposal and fugitive dust. The CQC Manager is also responsible for advising the Engineer of site environmental conditions which warrant action.

4.0 ENVIRONMENTAL CONTROL

4.1 General

This plan describes the requirements and procedures which will be utilized to maintain the environment in its natural state to the greatest extent possible during the project and to enhance the natural appearance of the Site in its final condition. The plan includes provisions for documenting baseline conditions with an initial Environmental Conditions Survey that is conducted jointly by the Engineer and the Construction Manager. The Environmental Conditions Survey is performed prior to the start of onsite preparation and material removal activities. The other subjects of the plan include preservation of trees and shrubs outside of work areas, water resources, fish and wildlife, debris disposal, and fugitive dust.

4.2 Environmental Conditions Survey Report

Prior to the start of any onsite preparation and material removal activities in any site area, the Construction Manager and the Engineer will make a joint condition survey of the Site. Environmental conditions to be observed include the location, viability, and density of vegetation; the location, visual appearance, and flow of adjacent waterways, and the location of any adjacent croplands, gardens, or orchards.

The Construction Manager will prepare a brief report indicating the environmental conditions immediately adjacent to the Site and adjacent to the assigned storage areas and access route(s) as applicable. The report will contain a layout plan that includes notations of the conditions observed. The report will be signed by both the Engineer and Construction Manager upon mutual agreement as to its accuracy and completeness.

4.3 Soil Erosion and Sediment Control Measures

This section describes the specific measures for control of soil erosion and sedimentation. These measures shall be undertaken for the following components for the site preparation and material removal work.

- Access and temporary haul roads
- Support zone
- Stormwater drainage channels

4.3.1 Access and Temporary Haul Roads

Access roads to the support zone and equipment laydown area shall be covered with an aggregate paving layer as shown on the Contract Drawings. Silt fences shall be placed between the access roads and adjacent stormwater drainage channels to contain any sediment transported from the roads during stormwater runoff events.

Temporary haul roads from the Site to the onsite borrow area will follow the route of existing access roads where possible. Silt fence shall be placed adjacent to the temporary haul roads as necessary to prevent sediment transport into existing surface water channels.

Dust generated from traffic on access roads or temporary haul roads will be controlled as specified in Section 4.9 of this plan.

4.3.2 Support Zone

A row of silt fence will be installed adjacent to the support zone diversion channels, between the support zone and the channels, prior to regrading activities in the support zone. The purpose of this silt fence is to intercept and contain relatively small amounts of sediment expected from the gently sloping support zone area. The silt fence will have openings to allow access into the remedial boundary.

The support zone shall be covered with aggregate paving as shown on the Contract Drawings. This paving is expected to minimize sediment transport during operations, however, the silt fence should still be maintained during project operations.

4.3.3 Stormwater Drainage Channels

Stormwater drainage shall be managed by constructing new diversion channels adjacent to the support zone and Parcel 45 and improving the existing north and south diversion ditches which drain into the unnamed ditch. No improvements are planned in the unnamed ditch under this contract.

The diversion channels and ditches will be lined with either a vegetative cover or riprap to minimize erosion. Specific channel linings are described on the Contract Drawings.

In addition, the diversion channels and ditches will have erosion control berms placed along the channel sections immediately after placing the channel linings. The erosion control berms will consist of staked, double-straw bales placed across the channel bottom, perpendicular to the direction of flow. The erosion control berms will be placed at a spacing of 100 feet within each new or improved channel section.

4.4 Protection of Land Resources

4.4.1 General

The land resources outside the limits of the site area and permanent work performed under this contract shall, to the extent practicable, be preserved in their present conditions or be restored to a natural-like condition after completion of construction. Construction activities will be confined to areas defined by the Contract Drawings and Specifications. The following requirements will be adhered to during the course of the work to provide for environmental protection.

4.4.2 Prevention of Landscape Defacement

The existing trees and shrubs will not be defaced, injured, destroyed, cut or removed, except in areas indicated on the Contract Drawings and specified to be cleared, without the authority of the Engineer. Ropes, cables, or guys shall not be fastened to or attached to any existing nearby trees for anchorage unless specifically authorized. Where such special emergency use is permitted, it shall be performed in such a manner as to minimize damage to the trees. The Remedial Contractor will be responsible for any damage resulting from such use. Where the

possibility exists that trees may be defaced, bruised, injured, or otherwise damaged by equipment or operations, the Remedial Contractor will adequately protect such trees. Stone, earth, or other material that is displaced by activities into uncleared areas will be removed. Monuments and markers will be protected before construction operations commence.

4.4.3 Restoration of Landscape Damage

Damage to existing trees, turfed areas, or other landscape features that has occurred during the course of the work by the Remedial Contractor will be repaired. The restoration of scarred or damaged trees will be performed by experienced workmen in a manner approved by the Engineer.

4.4.4 Location of Parking, Equipment Laydown, and Storage Facilities

Support facilities required in the performance of the work will be located upon cleared portions of the Site in areas as described on the Contract Drawings and as approved by the Engineer. The decision to select an alternate location will include consideration for preservation of the landscape. The approval for use of an alternate site will be obtained from the Engineer prior to site preparation of the area by the Remedial Contractor.

4.5 Protection of Water Resources

Care will be taken to minimize any detrimental impact to ponds, marshes, streams, or waterways adjacent to the Site. The Remedial Contractor will investigate and comply with all applicable Federal, state, and county laws concerning pollution of rivers and streams. The Emergency Response Plan, included as part of the Health and Safety Plan, addresses the procedures which will be utilized to control and clean up onsite spills.

4.6 Protection of Fish and Wildlife

Care will be taken to minimize interference or disturbance to area fish and wildlife. The Remedial Contractor will take such steps as are necessary to ensure that alteration of water flows or disturbance to native habitats adjacent to the work area do not occur unless necessary for completion of the project.

4.7 Disposal of Debris

Debris and/or non-hazardous wastes resulting from the Remedial Contractor operations outside of the scope of the SPMR work will be removed from the Site and disposed of offsite as per the approval of the Engineer for each waste source. Such materials will be removed from the Site of the work before final acceptance of the work.

4.8 Burning

Material will not be burned on the project site.

4.9 Dust Control

Dust control measures will be implemented in response to the offsite air monitoring stations as outlined in the Air Monitoring Plan (AMP) or other reasons as identified by the Engineer. Acceptable levels of particulates are defined in the AMP and exceedances will be identified by the Construction Manager.

Since SPMR activities will result in minimal disturbance of the ground, it is anticipated that unacceptable levels of dust will not be generated. If it is determined that unacceptable levels of dust are being generated by these activities, the Engineer will restrict some or all activities until dust control measures have been instituted to prevent contaminant migration. The following dust control measures will be considered:

- Cease activities until more favorable conditions exist
- Apply water over the area(s) of concern
- Apply calcium chloride over the area(s) of concern

The Remedial Contractor will proceed with implementation of dust control measures only after approval by the Engineer.

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4.9.1 Water Application

- Water application shall not be performed without written approval of the Engineer. Surface runoff shall not be allowed. Seepage into the subgrade shall not be allowed.
- Material - Provide clean water, free from salt, oil, and other deleterious materials.
- Equipment - Apply water with equipment consisting of a tank, spray bar, and pump with discharge pressure gage.
- Methodology - Arrange spray bar height above grade; arrange nozzle spacing and spray pattern to provide complete coverage of ground with water.

4.9.2 Calcium Chloride Application

- Material - The Remedial Contractor shall provide calcium chloride that conforms to ASTM D98, latest edition.
- Application - The Remedial Contractor shall apply by hand or variable-rate spreader.
- Environmental Protection - The Remedial Contractor shall prevent calcium chloride from entering and contaminating surface waters on or surrounding the project site.

4.10 Vapor and Odor Control

Vapor control measures will be implemented in response to the offsite air monitoring stations as outlined in the AMP, or other reasons as identified by the Engineer. Acceptable levels of vapors are defined in the AMP and exceedances will be identified by the Construction Manager. Acceptable odor levels will be determined in the field by the Engineer.

SPMR activities are not expected to generate unacceptable levels of vapor or odors. If unacceptable levels of vapor or odors are generated by onsite activities, the following controls will be implemented:

- Limit the exposure area by reducing the area of disturbance
- Cover the exposure area nightly with suitable cover material
- Use other odor suppressants, if necessary and chemically compatible, to reduce offsite odors to acceptable levels

The Remedial Contractor will proceed with implementation of vapor and odor control measures only after approval by the Engineer.

5.0 MAINTENANCE

The Remedial Contractor shall maintain the necessary environmental and erosion control measures over the period of the project activities. Regular inspections shall be performed, at a minimum after each major precipitation event, to determine deficiencies or the need for additional measures. A summary checklist of common maintenance problems and remedies is outlined in Table 5-1.

TABLE 5-1**MAINTENANCE CHECKLIST
PAGE 1 OF 3**

Control Measure	Problems to Look for	Possible Remedies
Vegetation	Rills or gullies forming	Check for top-of-slope diversion and install if needed.
	Bare soil patches	Fill rills and regrade gullied slopes.
	Sediment at toe of slope	Reseed, fertilize, and mulch bare areas.
Dikes	Gully on slope below dike breach; wheel track or low spot in dike	Add soil to breaches or low spots and compact.
	Loose soil	Compact loose soil.
	Erosion of dike face	Seed and mulch dike or line upslope face with crushed rock.
Riprap-lined Waterway	Scour beneath stones	Install proper filter fabric or graded bedding. Make sure edges of filter fabric are buried.
	Dislodged stones	Replace with larger stones.
Outlet Protection	Erosion below outlet	Enlarge riprap apron; or line receiving channel below outlet; or convey runoff directly to a more stable outlet, such as a storm drain. Make sure discharge point is on level or nearly level grade.
	Outlet scour	Install proper filter fabric or graded bedding beneath riprap apron.
	Dislodged stones	Replace with larger stones.

TABLE 5-1**MAINTENANCE CHECKLIST
PAGE 2 OF 3**

Control Measure	Problems to Look for	Possible Remedies
Straw Bale Dike	Bale displacement	Anchor bales securely with proper stakes. Check drainage area, slope length, and gradient behind barrier.
	Undercutting of bales	Entrench bales to proper depth, backfill, and compact soil.
	Gaps between bales	Restake bales. Drive first stake in each bale at angle to force the bale toward the adjacent bale.
	Baling wire broken	Retie bale or replace with fresh bale.
	Bale disintegrating	Replace bale.
	Runoff escaping around barrier	Extend barrier or reposition in center of flow path.
	Sediment level near top of bales	Remove sediment when level reaches half of barrier height.
Silt Fence	Undercutting of fence	Entrench wire mesh and fabric to proper depth, backfill, and compact.
	Fence collapsing	Check fence post size and spacing, gauge of wire mesh, and fabric strength. Check drainage area, slope length, and gradient behind barrier. Correct any substandard condition.
	Torn fabric	Replace with continuous piece of fabric from post to post. Securely anchor with proper staples.

TABLE 5-1**MAINTENANCE CHECKLIST
PAGE 3 OF 3**

Control Measure	Problems to Look for	Possible Remedies
	Runoff escaping around barrier	Extend fence.
	Sediment level near top of fence	Remove sediment when level reaches half of fence height.
Inlet Protection	Flooding around or below inlet	Remove accumulated sediment; or convert sediment barrier to an excavated sediment trap; or reroute runoff to a more suitable outlet.
	Undercutting of bales or silt fence, bale displacement, torn fabric, etc.	See remedies for straw bale dikes and silt fences.